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(54) **Seat device of a vehicle**

Sitzvorrichtung für ein Fahrzeug

Dispositif de siège pour un véhicule

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- **PATENT ABSTRACTS OF JAPAN vol. 1997, no. 12, 25 December 1997 (1997-12-25) -& JP 09 207637 A (HONDA MOTOR CO LTD), 12 August 1997 (1997-08-12)**
- **WINTERHAGEN J: "DER EUROVAN VON FIAT UND PSA. EUROVAM FROM FIAT AND PSA" , ATZ AUTOMOBILTECHNISCHE ZEITSCHRIFT,DE,FRANCKH'SCHE VERLAGSHANDLUNG. STUTTGART, VOL. 96, NR. 10, PAGE(S) 620-621 XP000469930 ISSN: 0001-2785 * the whole document ***
- **PATENT ABSTRACTS OF JAPAN vol. 007, no. 159 (M-228), 13 July 1983 (1983-07-13) -& JP 58 067526 A (TENRIYUU KOGYO KK), 22 April 1983 (1983-04-22)**

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Description

BARKGROUND OF THE INVENTION

Field of the Invention

[0001] The present invention relates to a seat device of a vehicle, in particular, a seat device of a vehicle which is provided with a flat floor across a substantially entire seating area.

Related Art

[0002] A seat device as disclosed in a Japanese Un-examined Patent Application publication No.61-37547 has been known. The seat device disclosed in the Japanese publication is provided with a seat which is movable in not only a longitudinal direction of the vehicle but also a lateral direction thereof and rotatable so as to improve an operation performance of the seat device.

A Japanese Utility Model Un-examined publication No. 5-40029 discloses a seat device in which a rear seat can be folded and retracted in a recess formed at a rear portion in a cabin space. In this structure, when the seat is retracted, a bottom surface of a seat cushion of the seat is substantially aligned with a floor level of the vehicle.

[0003] With this structure, it is advantageous in that when retracted, the cabin space is open to various usage, namely, the availability of the cabin space is enhanced.

[0004] It should, however, be noted that the structure as disclosed in the Japanese Utility Model publication is still disadvantageous in availability of the cabin space as a whole although the rear portion the space can be improved in is operability.

[0005] Prior art document JP 9-207 637 A discloses a seat arrangement of a vehicle comprising a floor surface extending across a full cabin space of the vehicle. The seat arrangement further comprises front row seats, center row seats and a rear row seat disposed in a longitudinal direction of the vehicle on the floor surface. Further disclosed is a seat storage pan extending rearward the rear row seat and downward a level on the floor surface. When the rear row seat is received in said seat storage pan a substantially flat and continuous surface of a substantially same level as the floor surface being formed rearward the center row seats to rear end of the cabin space with a substantially full width of the cabin space is obtained.

[0006] Prior art document U.S. 4,341,415 A discloses a seat arrangement of a vehicle in which two center row seats are provided. In order to provide a flexible seat arrangement the center row seats are rotatable and mounted on rails wherein one pair of rails is parallel with the longitudinal axis of the vehicle and one pair of rails extends across the vehicle at an angle of about 60 ° to the vehicle's longitudinal axis. The latter pair of rails extends to the front of the longitudinal rails so as to allow the center row seats to be located besides each other in a longitudinal direction of the vehicle.

[0007] Document EP 0 615 879 A1 discloses a slide rail arrangement and a device for regulating the position of a seat of a vehicle relative to the slide rails.

[0008] Prior art document JP 58-67526 A discloses a seat arrangement in which one seat is moveable forward, backward and sideward by means of rails extending in the longitudinal direction of the vehicle as well as by rails extending in the lateral direction of the vehicle. The seat arrangement comprises sliders which are provided on rails extending in the lateral direction of the vehicle. The upper portions of the sliders are coupled to each other by rails extending in the longitudinal direction of the vehicle on which sliders are provided to which the seat is mounted.

[0009] Prior art document ATZ Automobiltechnische Zeitschrift 96 (1994) October, No. 10, page 620 discloses a van comprising front row seats, center row seats and rear row seats which are moveable to several positions on the floor surface so as to provide a variety of seat arrangements. In addition the center row seats and the rear row seats are removable so as to open the corresponding floor area to various usages.

Summary of the invention

[0010] It is an object of the invention is to solve the above inconvenience of the conventional seat device of the vehicle.

[0011] In other words, it is an object of the present invention to provide a vehicle seat device which can improve the operability of the cabin space of the vehicle as a whole in a vehicle which is provided with a floor surface across a substantially entire cabin space.

[0012] This object is solved by a seat arrangement of a vehicle according to claim 1.

[0013] Further embodiments of the invention are the subject-matter of the sub-claims.

[0014] The above and other objects of the present invention can be accomplished by a seat device of a vehicle comprising a substantially flat floor surface substantially extending across a full cabin space of the vehicle, front row seats, center row seats and a rear row seat disposed in a longitudinal direction of the vehicle on the floor surface, a seat storage pan extending rearward the rear row seat and downward a level of the floor surface, the front row seats being disposed with a space, the center row seats including a plurality of seats in which at least one of the seats is movable in a lateral direction of the vehicle, when the rear row seat is received in the seat storage pan, a substantially flat and continuous surface of a substantially same level as the floor surface being formed rearward the center row seats to a rear end of the cabin space with a substantially full width of the cabin space, when the center row seats are disposed offset to one side of the vehicle with regard to the lateral direction and the rear row seat is received in the seat storage pan, a

substantially flat and continuous surface of a substantially same level as the floor surface being formed rearward the front row seats to a rear end of the cabin space, and when the center row seats are disposed to produce a space at a central portion of the vehicle in the lateral direction and the rear row seat is received in the seat storage pan, a substantially flat and continuous surface of a substantially same level as the floor surface being formed rearward the front row seats to a rear end of the cabin space at a central portion of the cabin space in the lateral direction. Further, according to the invention the rear row seat is provided with a seat cushion, a seat back and a hinge which is diposed at a rear side of the rear row seat, when the rear row seat being rolled back with keeping a normal seating attitude around the hinge, the rear row seat being formed so as to be seated on the seat back in lieu of the seat cushion with an inverted condition.

[0015] In a preferred embodiment, the front row seats include a driver's seat and an assistant's seat, the assistant's seat being movable in the longitudinal direction, and at least one of the center row seats which is disposed at a side of the assistant's seat in the lateral direction being movable in the lateral direction.

[0016] It is preferred that the center row seats are movable in both the longitudinal and lateral directions, and a longitudinal sliding mechanism for allowing a longitudinal movement of the center row seats being disposed over a lateral sliding mechanism for allowing a lateral movement of the center row seats.

[0017] Preferably, a slide rail for allowing a sliding movement of the central row seats is provided with a mechanism through which a seat is removed from the slide rail. Further, it is preferable that a door opening is formed at a longitudinal side of a vehicle corresponding the center row seats, and a side door for a sliding movement being combined with the door opening.

[0018] In another aspect of the invention, there is provided a seat device of a vehicle comprising a substantially flat floor surface substantially extending across a full cabin space of the vehicle, a front row seat, center row seat and rear row seat disposed in a longitudinal direction of the vehicle on the floor surface, each of the seats being movable in both the longitudinal and lateral directions of the vehicle through a longitudinal sliding mechanism for allowing the seat of a longitudinal movement and a lateral sliding mechanism for allowing the seat of a lateral movement, either one of the longitudinal and lateral sliding mechanisms being mounted on a body side of the vehicle, the other of the sliding mechanism being mounted on the seat so as to be moved together with the seat, and the sliding mechanism mounted on the body side of the vehicle being provided with a removable mechanism through which the seat is removed.

[0019] As mentioned above, the seats are constituted to be movable and removable so that the cabin space can be utilized in various applications. Thus, the operability of the cabin space as a whole can be drastically expanded.

[0020] Further objects, features and advantages of the present invention will become apparent from the Detailed Description of Preferred Embodiments which follows when read in light of the accompanying Figures.

BRIEF DESCRIPTION OF THE DRAWINGS

[0021]

Figure 1 is a plan view showing a cabin of a vehicle to which the present invention can be applied;
Figure 2 is an elevation view showing a lower portion and cabin the vehicle of Figure 1;
Figure 3 is a perspective view of a center row of seats;
Figure 4 is a perspective view of slide rails extending in the lateral direction of the vehicle wherein the seats are removed;
Figure 5 is a sectional view showing a relationship between the longitudinal slide rails and the lateral slide rails;
Figure 6 is a sectional view showing a joint structure of strikers for mounting the seats and the lateral slide rails ;
Figure 7 is a plan view showing a mount of the lateral slide rails;
Figure 8 is a plan view showing a condition of the cabin;
Figure 9A, 9B is a plan view and elevation view showing a condition of the cabin;
Figure 10A, 10B is a plan view and elevation view showing a further condition of the cabin;
Figure 11A, 11B is a plan view and elevation view showing a further condition of the cabin;
Figure 12A, 12B is a plan view and elevation view showing a further condition of the cabin;
Figure 13A, 13B is a plan view and elevation view showing a further condition of the cabin;
Figure 14A, 14B is a plan view and elevation view showing a further condition of the cabin;
Figure 15A, 15B is a plan view and elevation view showing a further condition of the cabin;
Figure 16A, 16B is a plan view and elevation view showing a further condition of the cabin;
Figure 17A, 17B is a plan view and elevation view showing a further condition of the cabin;
Figure 18A, 18B is a plan view and elevation view showing a further condition of the cabin;
Figure 19A, 19B is a plan view and elevation view showing a further condition of the cabin;
Figure 20A, 20B is a plan view and elevation view showing a further condition of the cabin;
Figure 21A, 21B is a plan view and elevation view showing a further condition of the cabin;
Figure 22A, 22B is a plan view and elevation view showing a condition of the cabin in accordance with another embodiment of the present invention;

Figure 23A, 23B is a plan view and elevation view showing another condition of the cabin in accordance with the embodiment of the present invention of Figure 22.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0022] Hereinafter, the present invention is described in detail taking reference with the attached drawings. Figure 1 is a plan view of a cabin 2 of a vehicle 1 to which the present invention can be applied. Figure 2 is an elevation view showing an inside of the cabin 2 and a portion of the vehicle 1 lower than the floor. Referring to Figures 1 and 2, between front wheels 2 disposed at a front area of the vehicle 1 is defined an engine room 5 in which an engine 4 is disposed. The engine room 5 is divided by a cowl panel 6 and a dash panel 7 from a cabin space. The illustrated vehicle 1 is of so called one box car which is provided with a floor panel which defines a substantially flat floor panel across an entire cabin space. In the cabin space, a front seat row of seats 9 and 10 is arranged in a lateral direction side by side. One of the seats 9 and 10 is a driver's seat 9 which is disposed corresponding to a steering wheel 11. The other seat 10 is an assistant's seat. A center row of seats 12, 13 are arranged rearward the front row of seats 9, 10. The seats 12, 13 are arranged side by side and movable independently from each other in a longitudinal and lateral directions of the vehicle 1 respectively. Further, a rear row of seat 14 is arranged rearward the pair of center row of seats 12 and 13. In the illustrated embodiment, the rear row of seat 14 takes a bench seat configuration and is broad enough so that three persons can be seated although head rests are provided for only two persons.

The seats 9,10,12,13 and 14 are provided with seat cushions 15 and seat backs 16 which can be reclined, fixed at a desired seating angle and foldable with regard to the seat cushions 15 respectively. Each of the seats is provided with a head rest 17. At a side of the front row of the seat is provided a front door 18. A side door is provided corresponding to the center row of seats 12 and 13. The side door 19 is provided as a slide door in this illustrated embodiment so that an open space are provided at a side of the center row of seats 12 and 13. There is defined a storage pan 20 extended downward the floor surface at a rear portion of the vehicle 1 so that the rear row seat 14 is retracted in the pan 20. The storage pan 20 has a width enough to receive the rear row seat 14 and has a depth to receive the seat 14 at a folded condition. An upper opening 21 of the pan 20 is closed by forming a surface aligned with the floor panel 8 when the rear seat 14 is retracted therein.

[0023] With regard to the lower structure of the floor panel 8, a propeller shaft 22 extends rearward at a central portion of the vehicle 1 from a rear end of the engine 4. A rear end of the propeller shaft 22 is joined with a differential gear device 24 of a rear wheel 23. The differential gear device 24 distributes an engine output power transmitted to the propeller shaft 22 from the engine 4 to transmit the power through rear axles to the rear wheels 23. A pair of side frames 38 extending in the longitudinal direction are provided at opposite sides of the vehicle 1. Between a wheel base of the front wheel 3 and the rear wheel 23 is provided a spare tire storage device close to one of the side portions of the vehicle 1. A fuel tank is disposed at a substantially same position as the tire storage device in the longitudinal direction of the vehicle 1, and close to the other of the side portions of the vehicle 1. With this arrangement, the propeller shaft 22 extends in the longitudinal direction between the tire storage device and the fuel tank. In this case, the propeller shaft 22 extends straight and rearward. Further, an exhaust gas pipe 25 extends rearward from the rear end of the engine 4. A catalyst converter 26 is disposed at a front position of the spare tire storage device on the exhaust gas pipe 25 for cleaning the exhaust gas. The exhaust pipe 25 is formed with an arched portion, a silencer 27 rearward of the arched portion and a sub-silencer 28 just before an end opening of the pipe.

[0024] In the illustrated structure, the front row seats 9, 10 are slidably movable in the longitudinal direction and the center row seats 12, 13 are silidably movable in both the longitudinal and lateral directions.

[0025] Referring to Figures 3 and 4, there are provided perspective views showing lateral slide rails 29 for the center row seats 12, 13. The slide rails 29 are buried in the floor parallel with each other to extend in the lateral direction. The slide rails 29 are provided with strikers 30 and lock and lever mount 31 for mounting the center row seats at a desired position. Each of the seats is formed with a hook 33 for engaging the striker 30 and a lock and lever structure for engaging the lock and lever mount 31.

[0026] In Figure 5, there is generally shown a relationship between the lateral slide rails 29 and longitudinal slide rails 32. As shown in Figure 5, the longitudinal rails 32 are fixed to the center row seat 12, 13. To a lower side of each of the slide rails 32 is fixed a hook 33 which is brought into engagement with the rail 29. As shown in Figure 6, the slide rail 29 is slidably provided with a slide guide 34 for supporting the striker 30 which is brought into engagement with the hook 33 so that the right and left center row seats 12 and 13 are movable in the lateral direction along the lateral slide rails 29.

[0027] The lateral slide rails 29 are buried so as to be installed within a pair of recesses 8a, 8a formed on the floor panel 8. Referring further to Figure 7, the slide rails 29 are constituted by a pair of long panel members of substantially S like configuration in section. The panel members are supported by the brackets 39 which are fixed to the floor panel by means of bolts. The brackets 39 are disposed at a predetermined interval in the lateral direction, fixed to a horizontal flange portion of the panel member forming the slide rail 29 at one end for supporting the panel member and fixed to the floor panel 8 through bolts 40.

[0028] As shown in Figure 6, beneath the recess of the floor panel is positioned a cross member 41 of a channel configuration which is fixed to the side rails 39 at opposite ends so that a cross sectioned panel structure extending in the lateral direction is formed by the cross member 41 and a lower surface of the floor panel 8.

[0029] An upper surface of the slide rail 29 is substantially aligned with the upper surface of the floor panel 8. As a result, when the center low seats 12 and 13 are removed, a substantially flat floor surface is formed although the strikers 30 and the mounts 31 are slightly projected upwardly.

[0030] When the seats 12, 13 are slid with guides 35 which engage the longitudinal slide rails 32, the seats 12 and 13 can be moved in the longitudinal direction of the vehicle along the longitudinal rails 32. On top of that, the center row seats 12, 13 can be removed by disengaging the hook 33 from the strikers 30 .

[0031] Further, in the illustrated embodiment, the front row seats 9 and 10 are also removable. These seats can be mounted oppositely longitudinally

[0032] Hereinafter, with the vehicle structure having the above seat device, how to utilize the cabin space is to be explained.

[0033] A basic seat arrangement of the illustrated vehicle is, as shown in Figure 1, of a captain mode in which the front row seats 9 and 10, the center row seats 12 and 13, and the rear row seat 14 are all arranged for a forward looking attitude. In this case, the center row seats 12 and 13 are fixed to produce a distance in between.

[0034] As shown in Figure 8, it is possible to provide so called a bench mode in which one of the seats 12 and 13 is slid in the lateral direction to either one side so that two seats 12 and 13 are positioned at one side in contact with each other with regard to the lateral direction of the vehicle 1.

[0035] As shown in Figure 9, with the bench mode, the seats 12, 13 and 14 are all entirely folded to establish a two seating vehicle condition. With this condition, the cabin space rearward of the front row seats 9 and 10 can be widely opened so that a big amount of luggage can be loaded.

[0036] In addition, as shown in Figure 10, the assistant's seat can be entirely folded to obtain a further open space in the cabin. As shown in Figure 11, the center row seats 12 and 13 are moved laterally toward either one side of the cabin so as to be brought into contact with each other and entirely folded. With this arrangement, flat back surfaces of the seat backs 16b of the seats 12 and 13 can be utilized like a table. In this case, if the center row seats 12 and 13 are constituted in a manner that the seat backs 16 are formed with hard and horizontal flat surfaces in the back sides when entirely folded, the back sides of the seat backs of the center row seats 12 and 13 can be effectively used like a table.

[0037] Further, as shown in Figure 12, when the front row seats 9 and 10 are arranged oppositely in the longitudinal direction of the vehicle and the center row seats 12 and 13 are entirely folded, a face to face mode can be established in which the persons seated in the front row seats 9 and 10 face the persons seated in the rear row seat 14 over the center row seats 12 and 13. In Figure 13, a condition is shown that the center row seats 12 and 13 are removed. With this arrangement, a widely open space can be obtained forward of the rear row seat 14. The removed center row seats 12 and 13 can be stored in the storage pan 20. Alternatively, they can be arranged rearward of the front row seats 9 and 10 with the entirely folded condition as shown in Figure 14.

[0038] Further, as shown in Figure 15, when the center row seats 12 and 13 and the rear row seat 14 take full flat conditions, it is possible to establish a bed like condition by means of the seats. In this case, if the head rests 17 are able to be removed and mounted laterally thereto, a wider flat bed like condition can be established with this arrangement.

[0039] Further, as shown in Figure 16, when the rear row seat 14 is retracted into the storage pan 20, it is possible to obtain a widely open space rearward of the center row seats 12 and 13 in the cabin. With this arrangement, a widely open space of a flat surface in line with the floor surface can be formed at a side of the side door extending from the rearward of the assistant's seat to the rear end of the cabin space. As a result, a long and wide luggage such as ski, table, mattress can be loaded along a longitudinal and vertical side of the vehicle as shown in Figure 16. This is because a full space from the floor surface to a ceiling of the cabin can be obtained with no obstacle.

[0040] Further, the center row seats 12 and 13 can be removed with the rear seat 14 being retracted in the storage pan 20 as shown in Figure 17. As a result, a flat and widely open space in line with a floor level can be established rearward the front row seats with a full width to the rear end of the cabin. Such wide and open space of the cabin cannot be established in any conventional passenger vehicle. Thus, the vehicle according to the present invention can be used like a truck. In this case, the center row seats 12 and 13 can be stored rearward of the front row seats 9 and 10 with an entire folded condition (Figure 18). In addition, when the front row seats 9 and 10 and the center row seats 12 and 13 are fully reclined to establish substantially full flat condition with the rear row seat 14 being arranged for a normal seating condition, it is possible to obtain a broad and open bed like condition forward the rear row seat 14. In this case, if the head rest 17 is removed and arranged between the seats, it is possible to form a wide and flat surface substantially completely covered by the seats and head rests.

[0041] As shown in Figure 20, when the rear row seat 14 is rolled back with keeping the normal seating attitude around a hinge 37 which is disposed at a rear side of the seat so as to be seated on the seat back 16 in lieu of the seat cushion 16 with an inverted condition.

[0042] In this case, the seat back 16 takes a horizontal state. The storage pan 20 positioned under beneath the

seat back 16 so that a person can sit on the seat back 16 with a rear door 40 open. Further, as shown in Figure 21, one of the center row seats 12 and 13 can be removed to leave only one.

[0043] Referring to Figure 22, there is shown another embodiment in accordance with the present invention. In this embodiment, the center row seats are constituted by three seats in which a middle seat 36 is not mounted on the rails 29 and removably mounted. Therefore, when the middle seat 36 is removed, it is possible to utilize the cabin space with broad variations as mentioned in connection with the former embodiment. When the middle seat 36 is attached, a wider bench mode can be established with the center row seats 12,13 and 36.

[0044] As mentioned above, according to the present invention, the cabin space can be utilized with many variations as a whole so as to improve the operability of the cabin space drastically. Thus, the utility of the vehicle can be greatly expanded.

[0045] Although the present invention has been explained with reference to a specific, preferred embodiment, one of ordinary skill in the art will recognize that modifications and improvements can be made while remaining within the scope of the present invention. The scope of the present invention is determined solely by the appended claims.

Claims

1. A seat arrangement of a vehicle comprising:

a substantially flat floor surface substantially extending across a full cabin space of the vehicle (1);
front row seats (9, 10), center row seats (12, 13) and a rear row seat (14) disposed in a longitudinal direction of the vehicle (1) on the floor surface;
a seat storage pan (20) extending rearward the rear row seat (14) and downward a level of the floor surface;
a substantially flat and continuous surface of a substantially same level as the floor surface being formed rearward the center row seats (12, 13) to rear end of the cabin space with a substantially full width of the cabin space when the rear row seat (14) is received in the seat storage pan (20);

characterized in that
the front row seats (9, 10) being disposed with a space;
the center row seats (12, 13) including a plurality of seats in which at least one of the seats is moveable in a lateral direction of the vehicle (1);
a substantially flat and continuous surface of a substantially same level as the floor surface being formed rearward the front row seats (9, 10) to a rear end of the cabin space when the center row seats (12, 13) are disposed offset to one side of the vehicle (1) with regard to the lateral direction and the rear row seat (14) is received in the seat storage pan (20);
a substantially flat and continuous surface of a substantially same level as the floor surface being formed rearward the front row seats (9, 10) to a rear end of the cabin space when the center row seats (12, 13) are disposed to produce a space at a central portion of the vehicle (1) in the lateral direction and the rear row seat (14) is received in the seat storage pan (20); and
the rear row seat (14) being provided with a seat cushion (15), a seat back (16) and a hinge (37) which is disposed at a rear side of the rear row seat (14), when the rear row seat (14) being rolled back with keeping a normal seating attitude around the hinge (37), the rear row seat (14) being formed so as to be seated on the seat back (16) in lieu of the seat cushion (15) with an inverted condition.

2. A seat arrangement of a vehicle as recited in claim 1 wherein at least one of the center row seats (12, 13) is disposed to be removeable from the floor surface.

3. A seat arrangement of a vehicle as recited in claim 1 wherein the center row seats (12, 13) are removeably mounted in a lateral slide rail (29) extending in a lateral direction of the vehicle (1).

4. A seat arrangement of a vehicle as recited in claim 1, wherein the center row (12, 13) seats are both removeable from the floor surface.

5. A seat arrangement of the vehicle as recited in claim 1, wherein said center row seats (12, 13) are provided with seat cushions (15) and seat backs (16), the seat backs (16) being foldable with regard to the seat cushions (15).

6. A seat arrangement of a vehicle as recited in claim 1, wherein said front row seats (9, 10) are slideably moveable in the longitudinal direction of the vehicle (1).

7. A seat arrangement of a vehicle as recited in claim 1, wherein said lateral slide rail (29) of the center row seat (12, 13) has an upper surface which is substantially aligned with the floor surface.

8. A seat arrangement of a vehicle as recited in claim 1, wherein said front row seats (9, 10) are removeable from the floor surface and are able to be mounted oppositely longitudinally on the floor surface after being removed.

9. A seat arrangement of a vehicle as recited in claim 1, wherein said center row seats (12, 13) are provided with seat backs (16), the seat backs (16) being formed with hard and horizontal flat surfaces in the back sides thereof when being entirely folded.

10. A seat arrangement of a vehicle as recited in claim 1, wherein said at least one of the center row seats (12, 13) is moveable in both the longitudinal and lateral directions, and a longitudinal slide rail (32) for allowing a longitudinal movement of the center row seat (12, 13) is disposed over a lateral slide rail (29) for allowing a lateral movement of the center row seat (12, 13).

Patentansprüche

1. Sitzanordnung eines Fahrzeugs, umfassend
eine im Wesentlichen ebene Bodenfläche, die sich im Wesentlichen über den gesamten Innenraum des Fahrzeugs (1) erstreckt,
Sitze der vorderen Sitzreihe (9, 10), Sitze der mittleren Sitzreihe (12, 13) und einen Sitz der hinteren Sitzreihe (14), die in Längsrichtung des Fahrzeugs (1) auf der Bodenfläche angeordnet sind,
eine Sitz-Stauwanne (20), die sich vom Sitz der hinteren Sitzreihe (14) aus nach hinten und von der Ebene der Bodenfläche aus nach unten erstreckt,
eine im Wesentlichen ebene und ununterbrochene Fläche auf im Wesentlichen derselben Ebene wie die Bodenfläche, die hinter den Sitzen der mittleren Sitzreihe (12, 13) nach hinten bis zum Ende des Fahrzeuginnenraums ausgebildet ist und im Wesentlichen die volle Breite des Fahrzeuginnenraums aufweist, wenn der Sitz der hinteren Sitzreihe (14) von der Sitz-Stauwanne (20) aufgenommen ist,
dadurch gekennzeichnet,
dass die Sitze der vorderen Sitzreihe (9, 10) mit einem Abstand angeordnet sind,
dass die Sitze der mittleren Sitzreihe (12, 13) mehrere Sitze umfassen, von denen zumindest einer in Querrichtung des Fahrzeugs (1) verschieblich ist,
dass eine im Wesentlichen ebene und ununterbrochene Fläche auf im Wesentlichen derselben Ebene wie die Bodenfläche hinter den Sitzen der vorderen Sitzreihe (9, 10) nach hinten bis zum Ende des Fahrzeuginnenraums ausgebildet ist, wenn die Sitze der mittleren Sitzreihe (12, 13) bezüglich der Querrichtung nach einer Seite des Fahrzeugs (1) versetzt angeordnet sind und der Sitz der hinteren Sitzreihe (14) von der Sitz-Stauwanne (20) aufgenommen ist,
dass eine im Wesentlichen ebene und ununterbrochene Fläche auf im Wesentlichen derselben Ebene wie die Bodenfläche hinter den Sitzen der vorderen Sitzreihe (9, 10) nach hinten bis zum Ende des Fahrzeuginnenraums ausgebildet ist, wenn die Sitze der mittleren Sitzreihe (12, 13) so angeordnet sind, dass sie in einem mittleren Bereich des Fahrzeugs (1) in Querrichtung einen Freiraum bilden und der Sitz der hinteren Sitzreihe (14) von der Sitz-Stauwanne (20) aufgenommen ist, und
dass der Sitz der hinteren Sitzreihe (14) mit einem Sitzpolster (15), einer Sitzrükkenlehne (16) und einem an der Rückseite des Sitzes der hinteren Sitzreihe (14) angeordneten Scharnier (37) versehen, ist, und dass, wenn der Sitz der hinteren Sitzreihe (14) um das Scharnier (37) nach hinten gekippt wird und dabei eine normale Sitzhaltung beibehalten wird, der Sitz der hinteren Sitzreihe (14) so ausgebildet ist, dass der Fahrgast unter umgekehrten Bedingungen auf der Sitzrükkenlehne (16) anstatt auf dem Sitzpolster (15) sitzt.

2. Sitzanordnung eines Fahrzeugs nach Anspruch 1, wobei zumindest einer der Sitze der mittleren Sitzreihe (12, 13) so angeordnet ist, dass er von der Bodenfläche entfernt werden kann.

3. Sitzanordnung eines Fahrzeugs nach Anspruch 1, wobei die Sitze der mittleren Sitzreihe (12, 13) abnehmbar in einer quer verlaufenden Gleitschiene (29) montiert sind, die sich in Querrichtung des Fahrzeugs (1) erstreckt.

4. Sitzanordnung eines Fahrzeugs nach Anspruch 1, wobei die Sitze der mittleren Sitzreihe (12, 13) beide von der Bodenfläche abnehmbar sind.

5. Sitzanordnung eines Fahrzeugs nach Anspruch 1, wobei die Sitze der mittleren Sitzreihe (12, 13) mit Sitzpolstern (15) und Sitzrückenlehnen (16) versehen sind, wobei die Sitzrückenlehnen (16) in Bezug auf die Sitzpolster (15) umklappbar sind.

6. Sitzanordnung eines Fahrzeugs nach Anspruch 1, wobei die Sitze der vorderen Sitzreihe (9, 10) gleitend in Längsrichtung des Fahrzeugs (1) verschieblich sind.

7. Sitzanordnung eines Fahrzeugs nach Anspruch 1, wobei die quer verlaufende Gleitschiene (29) der Sitze der mittleren Sitzreihe (12, 13) eine obere Fläche aufweist, die im Wesentlichen mit der Bodenfläche bündig ist.

8. Sitzanordnung eines Fahrzeugs nach Anspruch 1, wobei die Sitze der vorderen Sitzreihe (9, 10) von der Bodenfläche abnehmbar sind und nach dem Abnehmen mit in Längsrichtung umgekehrter Ausrichtung auf der Bodenfläche montiert werden können.

9. Sitzanordnung eines Fahrzeugs nach Anspruch 1, wobei die Sitze der mittleren Sitzreihe (12, 13) mit Sitzrückenlehnen (16) versehen sind, wobei die Sitzrückenlehnen (16), wenn sie ganz umgeklappt sind,

an ihren Rückseiten harte und horizontal ebene Oberflächen aufweisen.

10. Sitzanordnung eines Fahrzeugs nach Anspruch 1, wobei zumindest einer der Sitze der mittleren Sitzreihe (12, 13) sowohl in Längs- als auch in Querrichtung verschieblich ist und eine in Längsrichtung verlaufende Gleitschiene (32), die eine Längsbewegung des Sitzes der mittleren Sitzreihe (12, 13) erlaubt, über einer quer verlaufenden Gleitschiene (29) angeordnet ist, die eine Querbewegung des Sitzes der mittleren Sitzreihe (12, 13) erlaubt.

Revendications

1. Disposition des sièges d'un véhicule, comprenant
une surface du plancher sensiblement plane qui s'étend sensiblement à travers l'espace total formant l'intérieur du véhicule (1),
des sièges de la rangée avant (9, 10), des sièges de la rangée médiane (12, 13) et un siège de la rangée arrière (14) qui sont disposés dans la direction longitudinale du véhicule (1), sur la surface du plancher,
un bac (20) pour le rangement de sièges qui s'étend vers l'arrière du siège de la rangée arrière (14) et sur un niveau plus bas par rapport à la surface du plancher,
une surface sensiblement plane et continue sur sensiblement le même niveau que la surface du plancher, formée derrière les sièges de la rangée médiane (12, 13) vers l'arrière de l'espace formant l'intérieur du véhicule et présentant sensiblement la largeur entière de l'espace formant l'intérieur du véhicule quand le siège de la rangée arrière (14) est logé dans le bac (20) pour le rangement de sièges,
caractérisée en ce que
les sièges de la rangée avant (9, 10) sont disposés avec un écart,
et que les sièges de la rangée médiane (12, 13) comprennent plusieurs sièges parmi lesquels au moins un des sièges est amovible dans la direction transversale du véhicule (1),
et qu'une surface sensiblement plane et continue sur sensiblement le même niveau que la surface du plancher est formée derrière les sièges de la rangée avant (9, 10) s'étendant jusqu'à l'arrière de l'espace formant l'intérieur du véhicule quand les sièges de la rangée médiane (12, 13) sont disposés de manière décalée d'un côté du véhicule (1) par rapport à la direction transversale et le siège de la rangée arrière (14) est logé dans le bac (20) pour le rangement de sièges,
et qu'une surface sensiblement plane et continue sur sensiblement le même niveau que la surface du plancher est formée derrière les sièges de la rangée avant (9, 10) s'étendant jusqu'à l'arrière de l'espace formant l'intérieur du véhicule quand les sièges de la rangée médiane (12, 13) sont disposés de manière à présenter un espace dans une partie centrale du véhicule (1) dans la direction transversale et le siège de la rangée arrière (14) est logé dans le bac (20) de rangement de sièges,
et que le siège de la rangée arrière (14) est équipé d'un coussin de siège (15), d'un dossier de siège (16) et d'une chamière (37) qui est disposée à l'arrière du siège de la rangée arrière (14) et que, quand le siège de la rangée arrière (14) est rabattu autour de la chamière (37) en maintenant une position d'assise normale, le siège de la rangée arrière (14) est formé de manière que le passager peut s'asseoir sur le dossier de siège (16) au lieu du coussin de siège (15).

2. Disposition des sièges d'un véhicule suivant la revendication 1, au moins un des sièges de la rangée médiane (12, 13) étant disposé de manière qu'il est amovible de la surface du plancher.

3. Disposition des sièges d'un véhicule suivant la revendication 1, les sièges de la rangée médiane (12, 13) étant montés de manière amovible sur un rail de glissage transversal (29) qui s'étend dans la direction transversale du véhicule (1).

4. Disposition des sièges d'un véhicule suivant la revendication 1, les sièges de la rangée médiane (12, 13) étant tous les deux amovibles de la surface du plancher.

5. Disposition des sièges d'un véhicule suivant la revendication 1, les sièges de la rangée médiane (12, 13) étant équipés de coussins de siège (15) et de dossiers de siège (16), les dossiers de siège (16) étant rabattables par rapport aux coussins de siège (15).

6. Disposition des sièges d'un véhicule suivant la revendication 1, les sièges de la rangée avant (9, 10) étant mobiles de manière glissante dans la direction longitudinale du véhicule (1).

7. Disposition des sièges d'un véhicule suivant la revendication 1, le rail de glissage transversal (29) des sièges de la rangée médiane (12, 13) présentant une surface supérieure qui est sensiblement affleurante à la surface du plancher.

8. Disposition des sièges d'un véhicule suivant la revendication 1, les sièges de la rangée avant (9, 10) étant amovibles de la surface du plancher et pouvant être montés en sens inverse dans la direction longitudinale sur la surface du plancher après avoir été démontés.

9. Disposition des sièges d'un véhicule suivant la re-

vendication 1, les sièges de la rangée médiane (12, 13) étant équipés de dossiers de siège (16), les dossiers de siège (16) étant formés par des surfaces dures et horizontalement planes à leurs parties arrières quand ils sont rabattus entièrement.

10. Disposition des sièges d'un véhicule suivant la revendication 1, au moins un des sièges de la rangée médiane (12, 13) étant mobile dans la direction longitudinale ainsi que transversale et un rail de glissage longitudinal (32) qui permet un mouvement longitudinal du siège de la rangée médiane (12, 13) étant disposé au-dessus d'un rail de glissage transversal permettant un mouvement transversal du siège de la rangée médiane (12, 13).

FIG.1

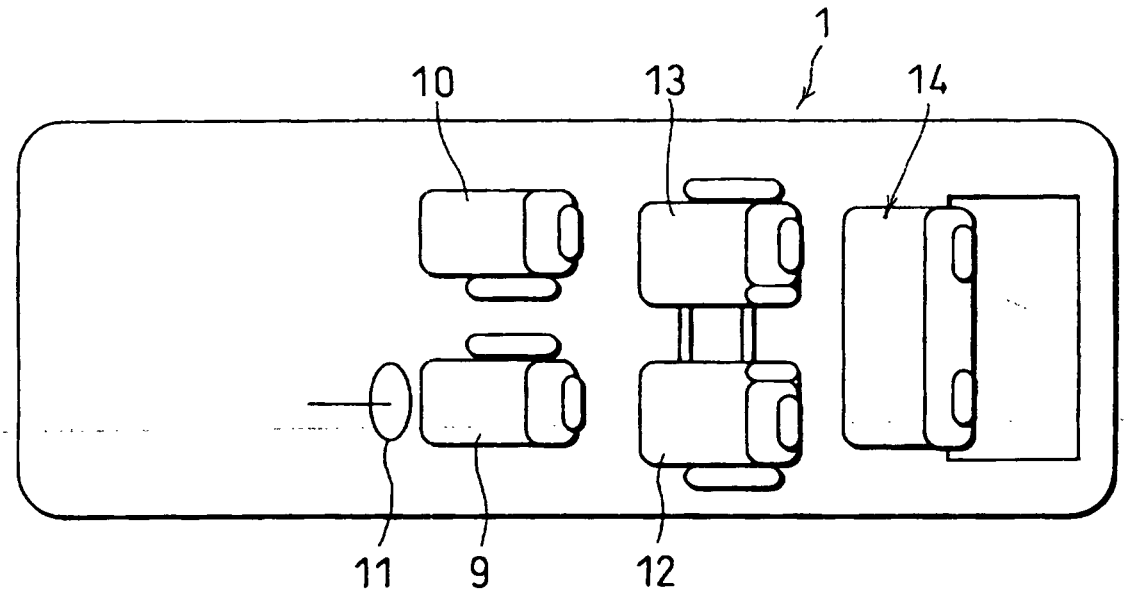


FIG.2

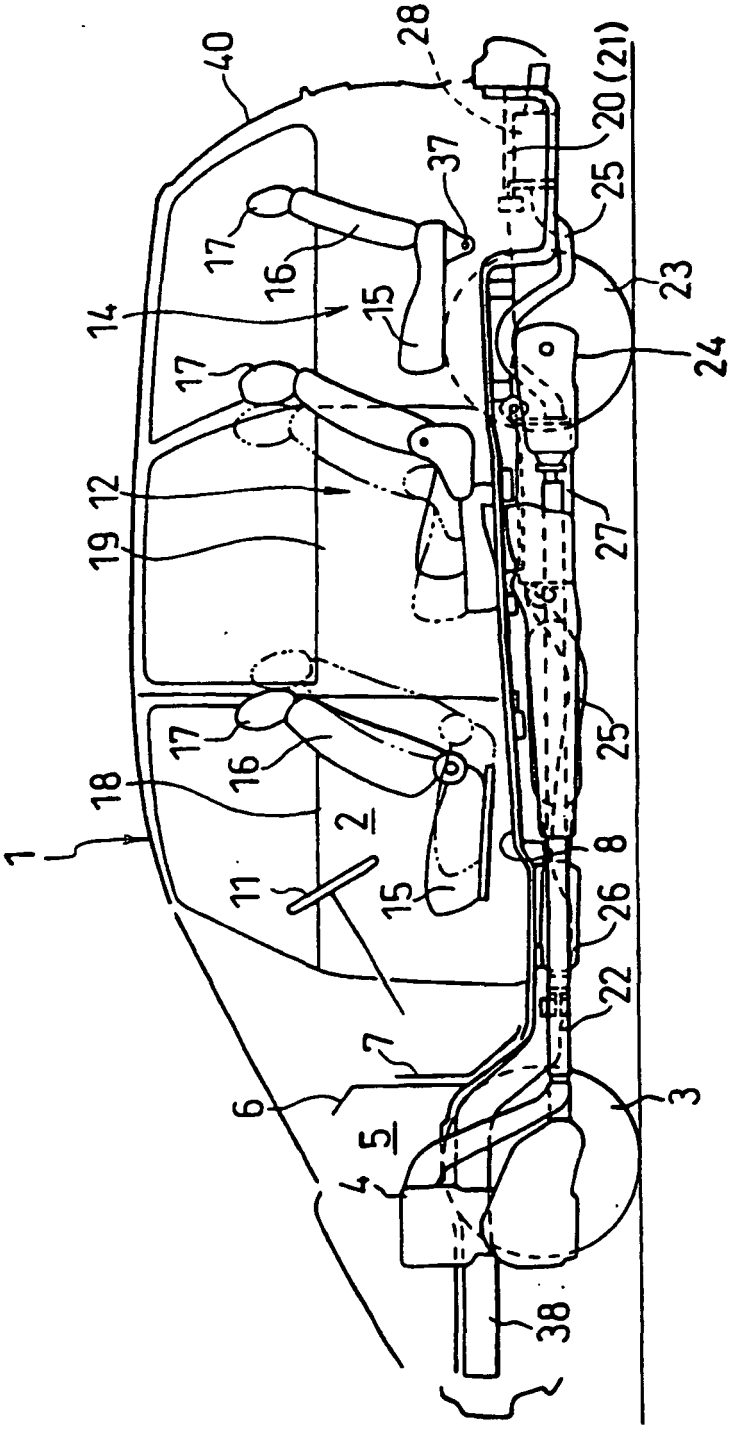

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FIG.3

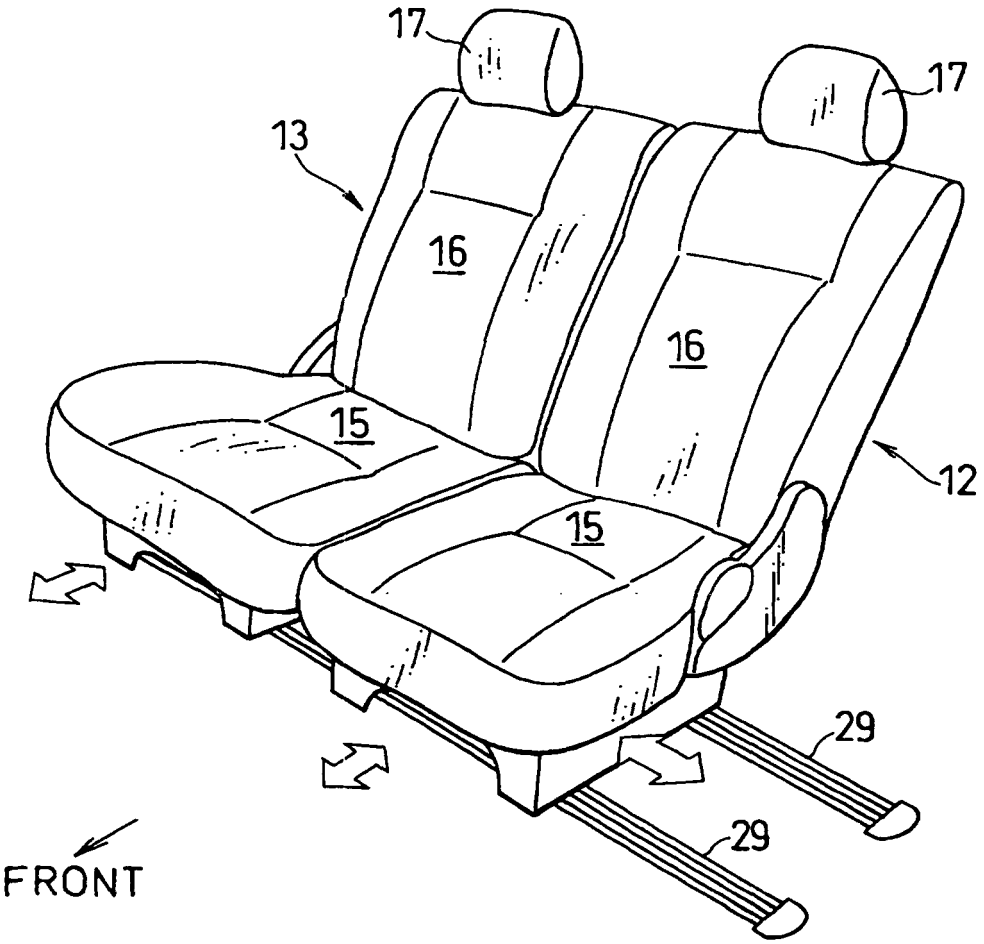


FIG.4

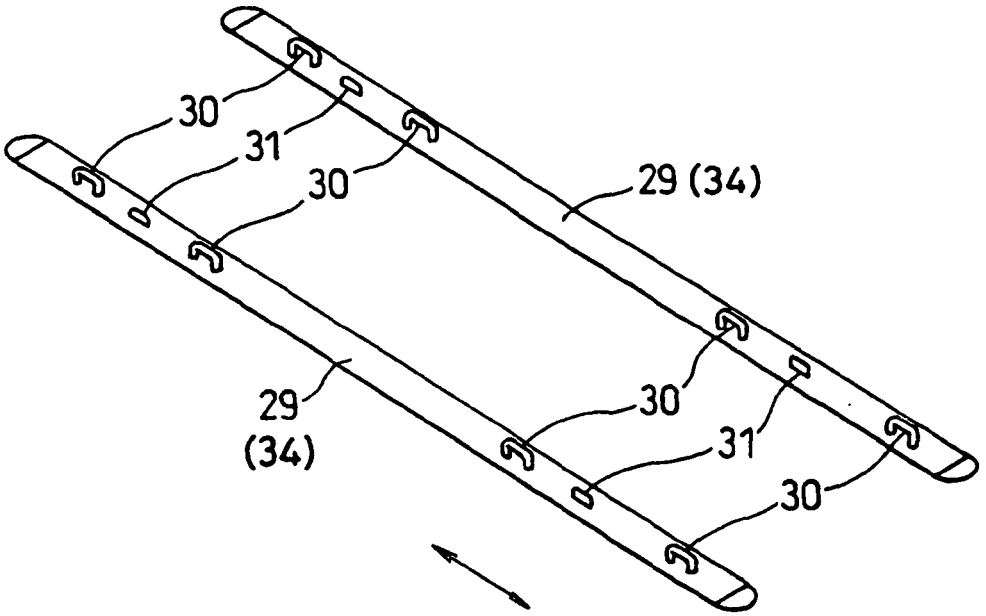


FIG.5

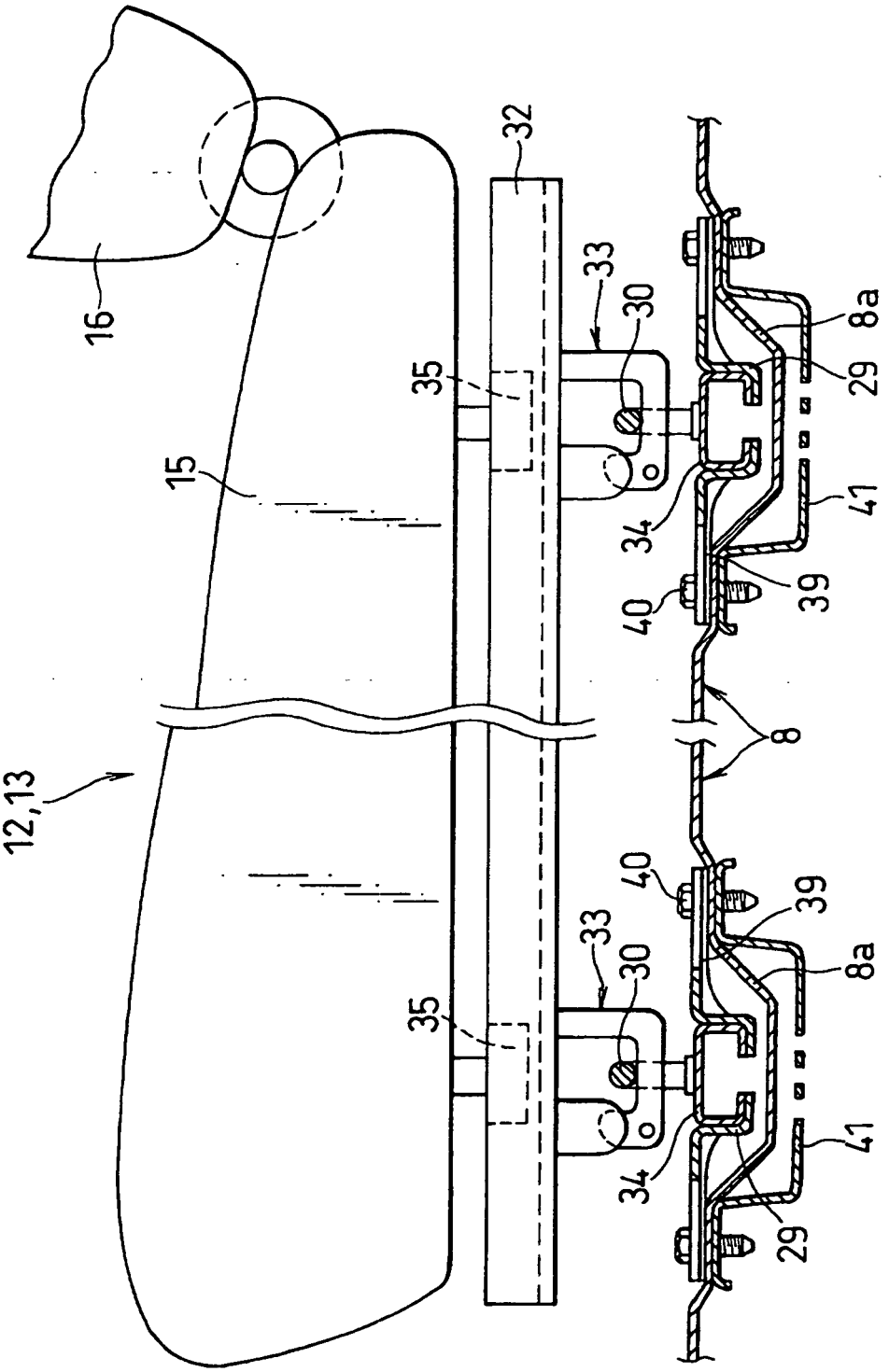


FIG.6

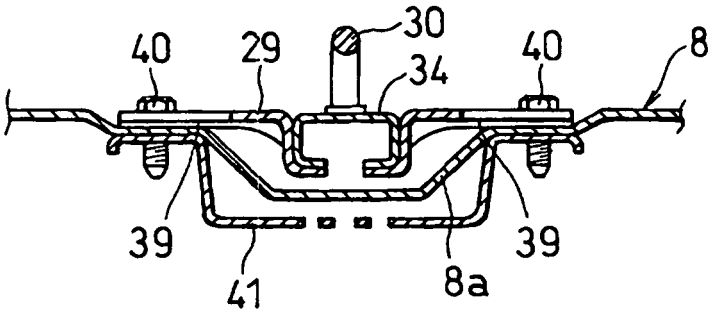


FIG.7

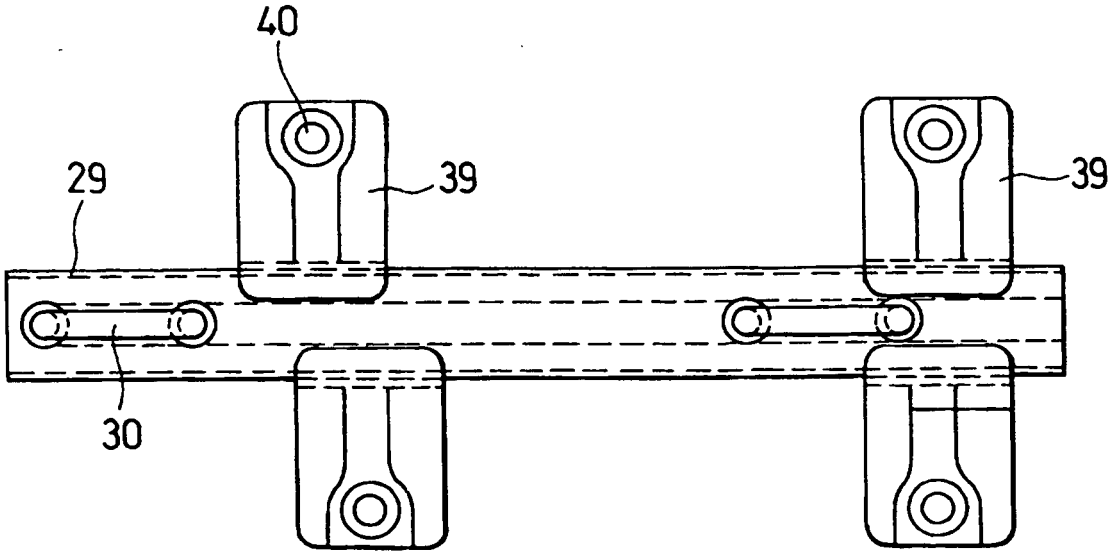
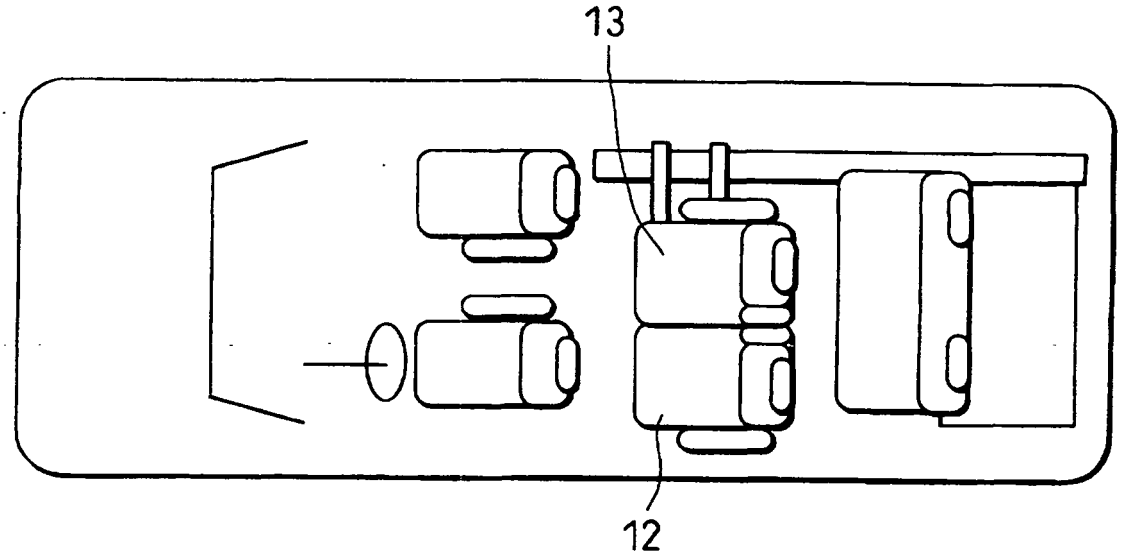


FIG.8



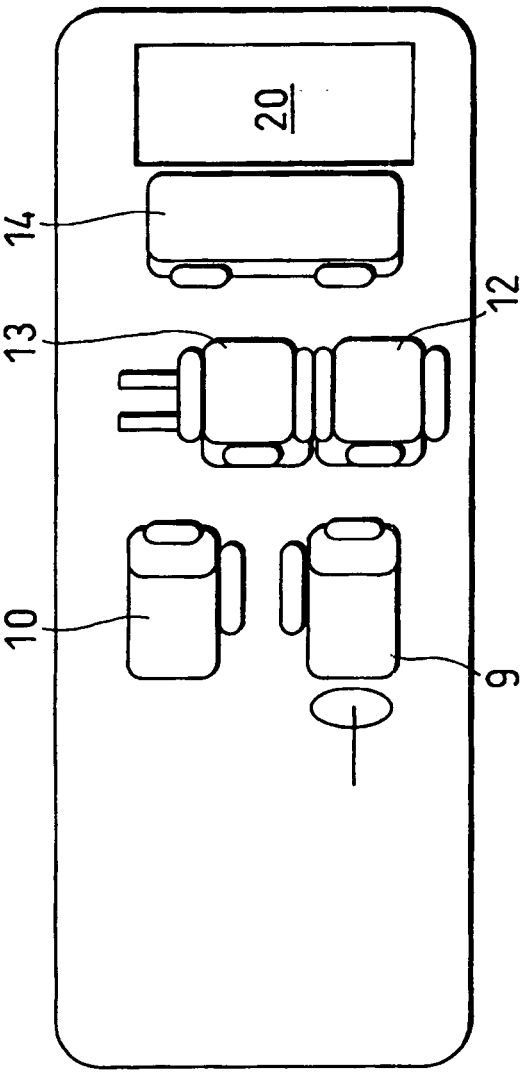


FIG.9A

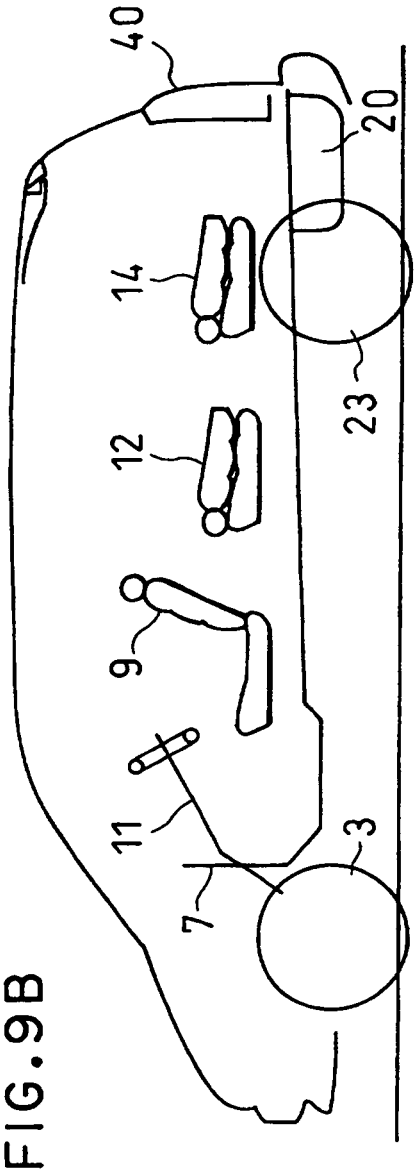


FIG.9B

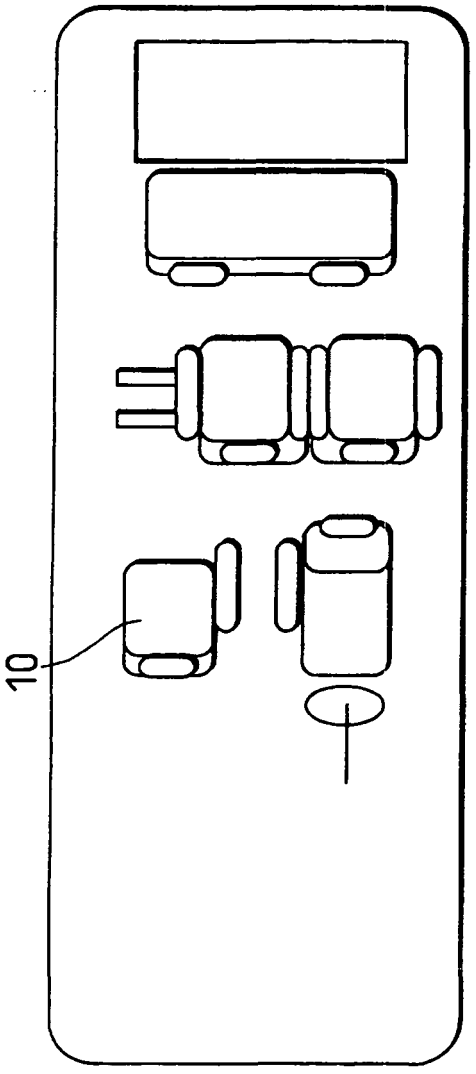


FIG.10A

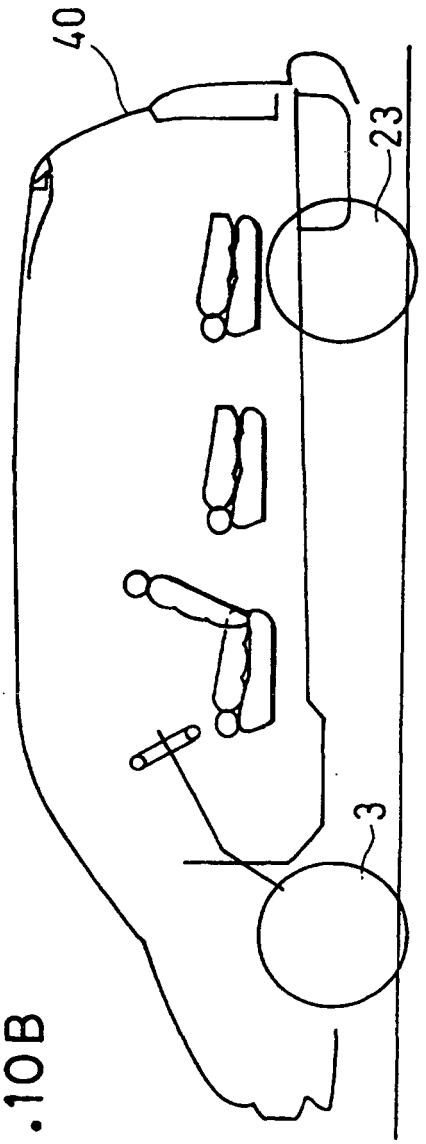


FIG.10B

FIG.11A

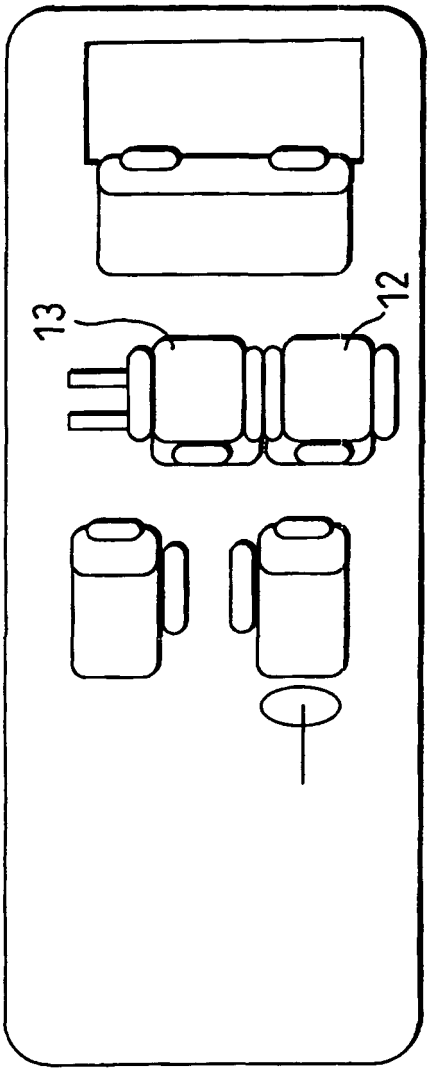


FIG.11B

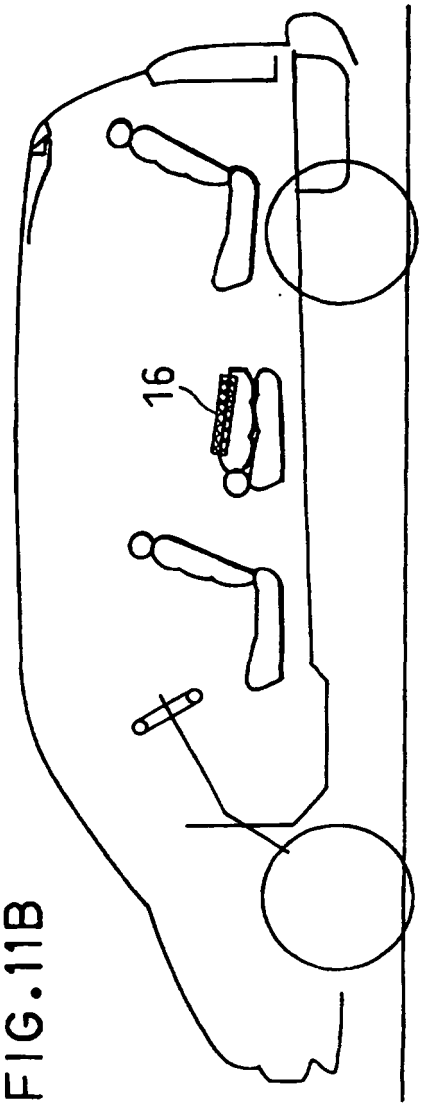


FIG.12A

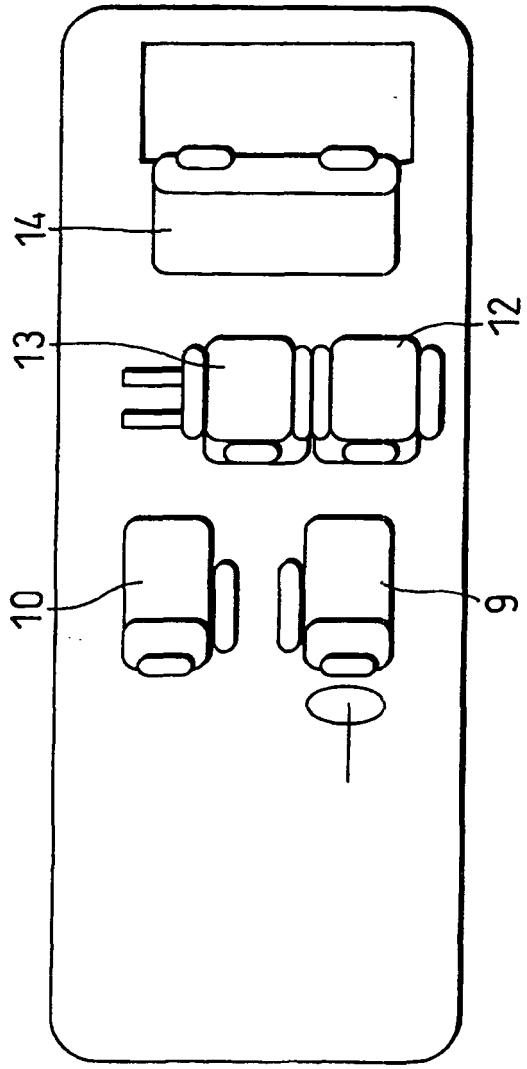
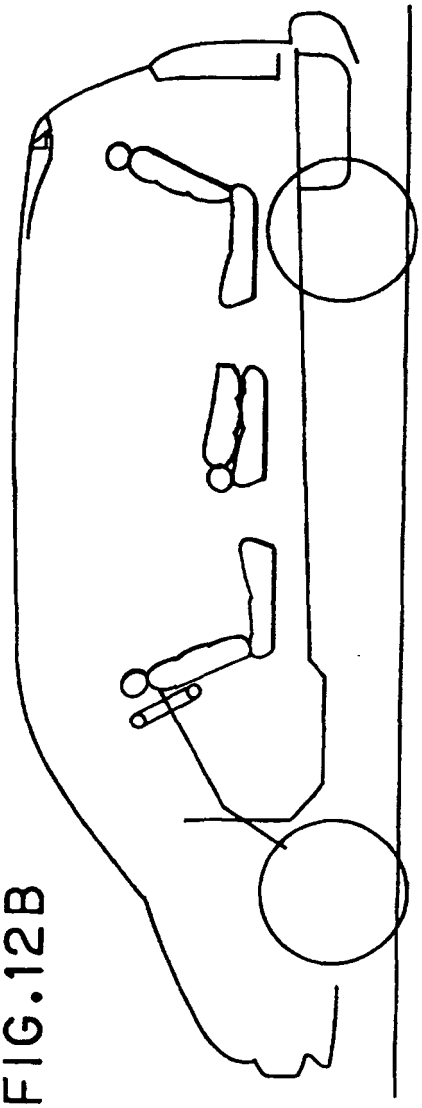


FIG.12B



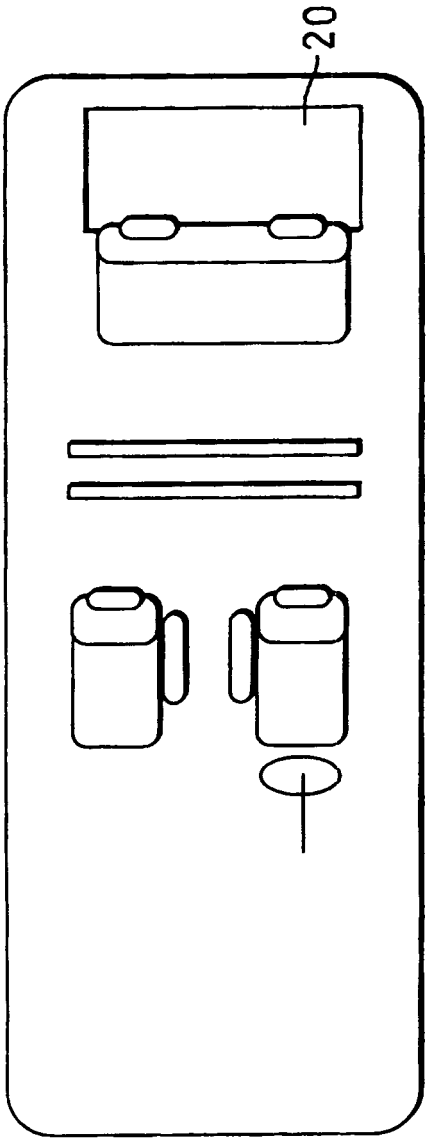


FIG.13A

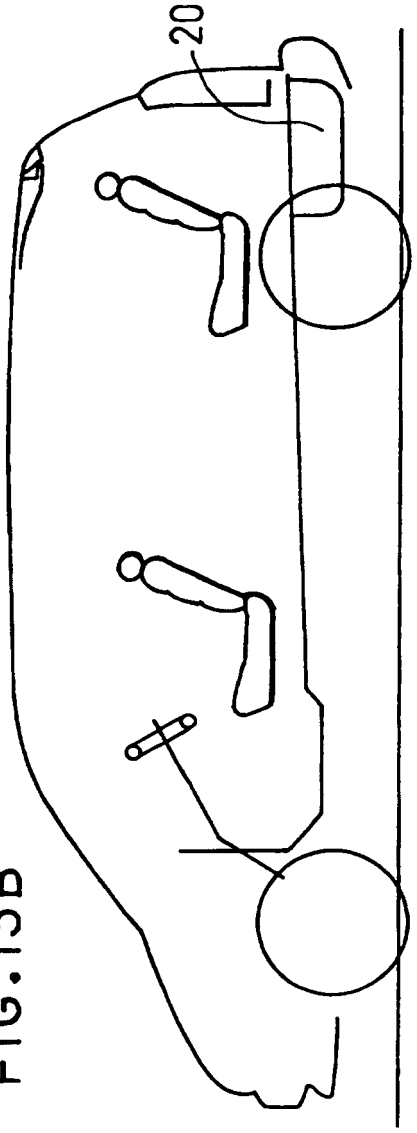


FIG.13B

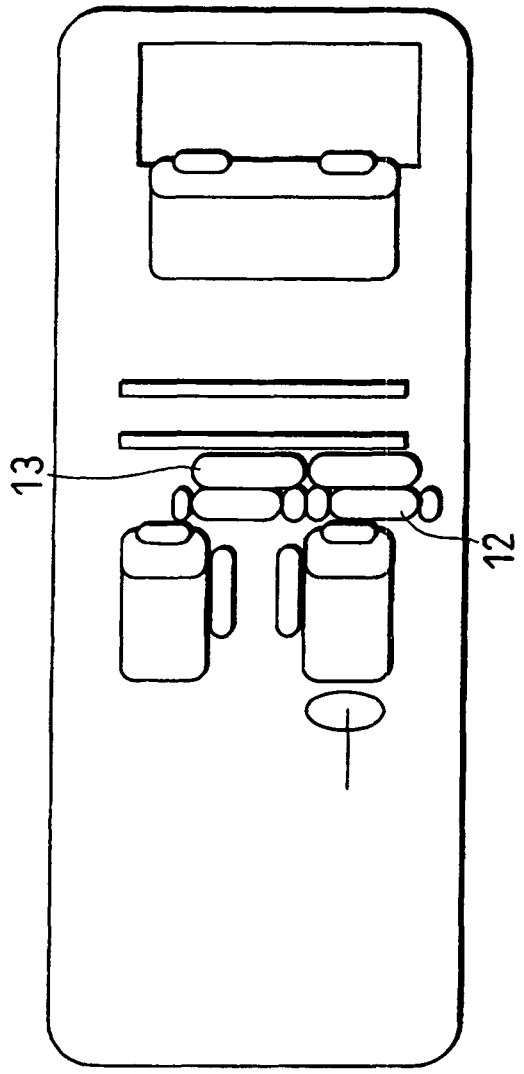


FIG.14A

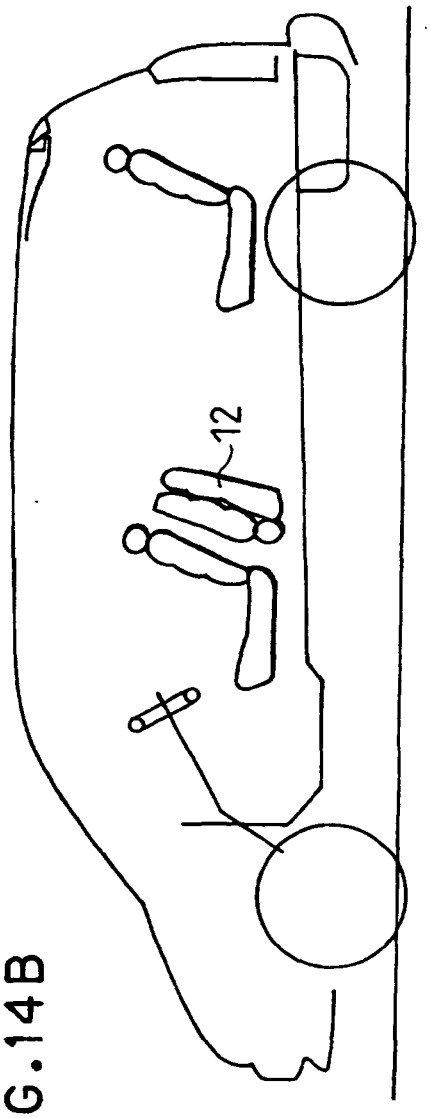


FIG.14B

FIG.15A

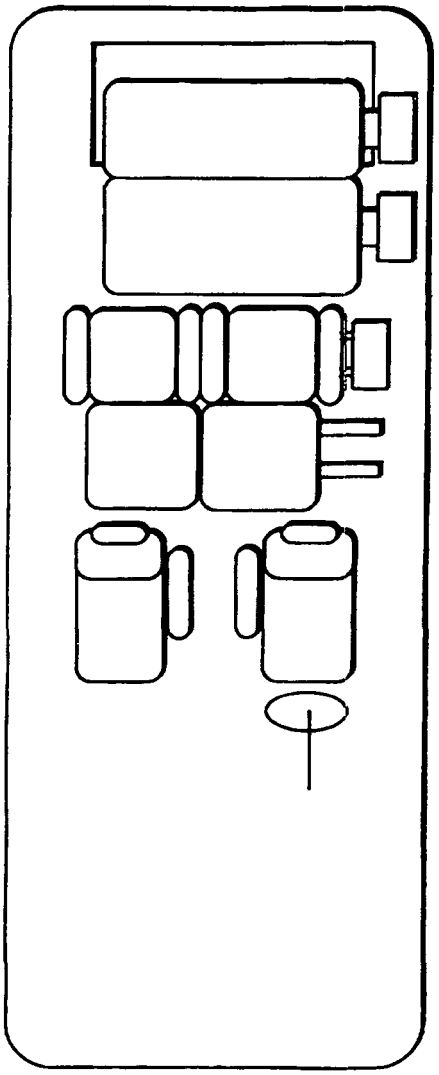
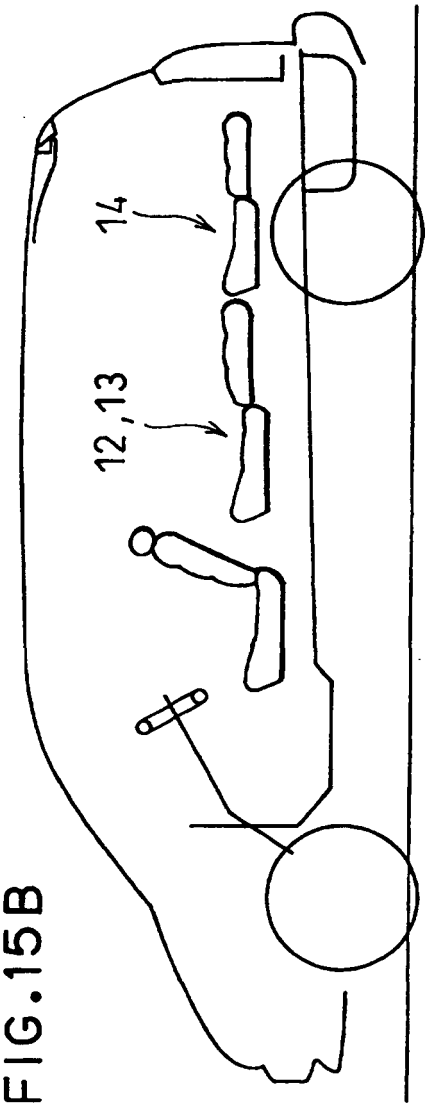


FIG.15B



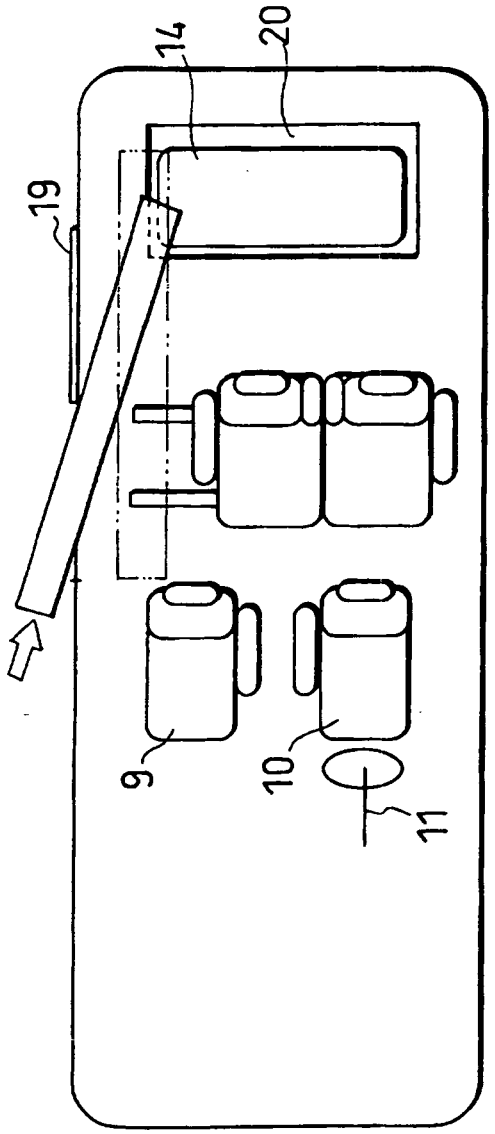


FIG.16A

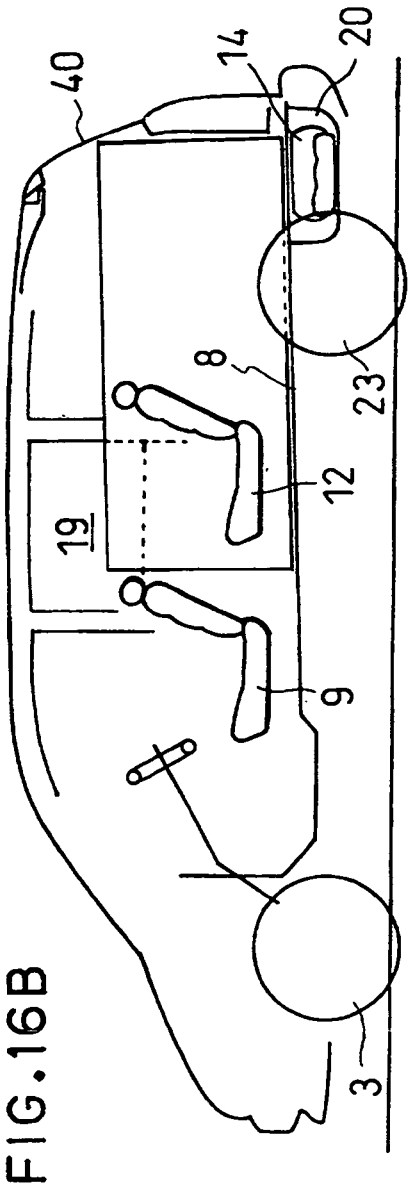


FIG.16B

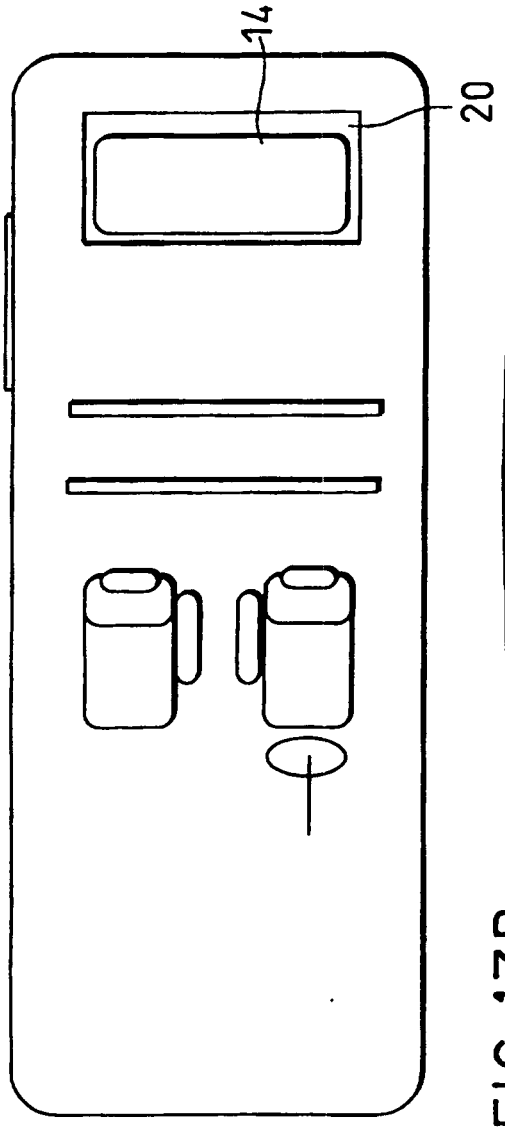


FIG.17A

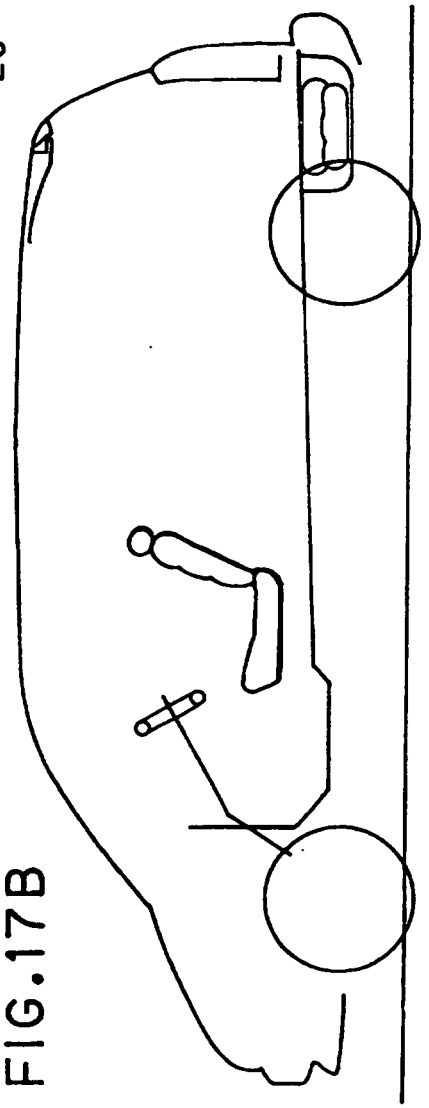


FIG.17B

FIG.18A

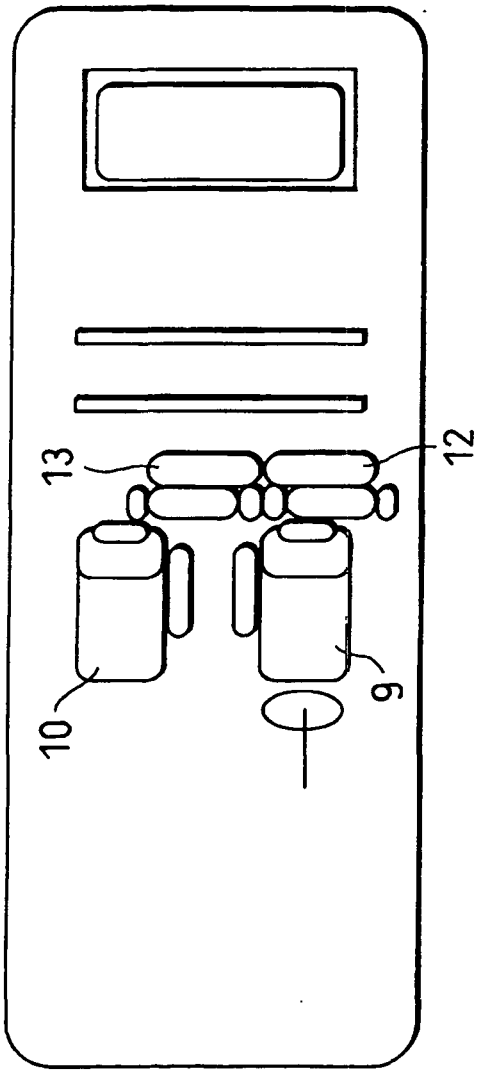
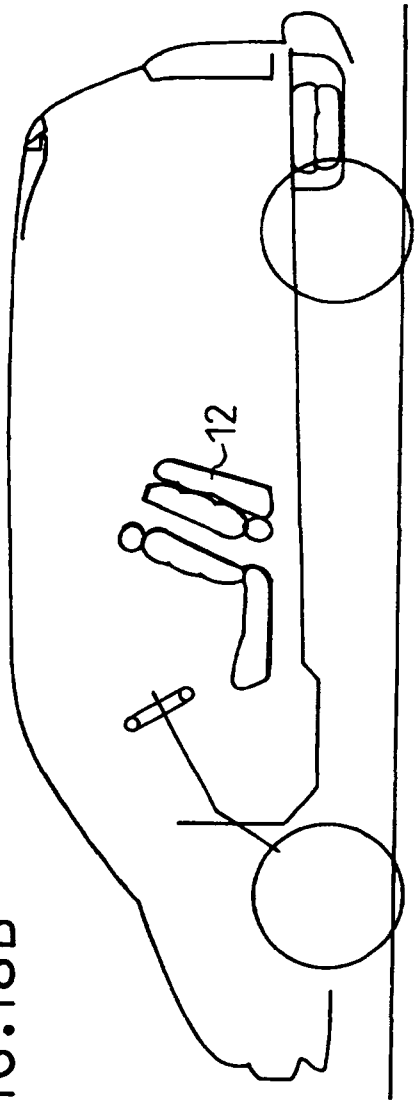


FIG.18B



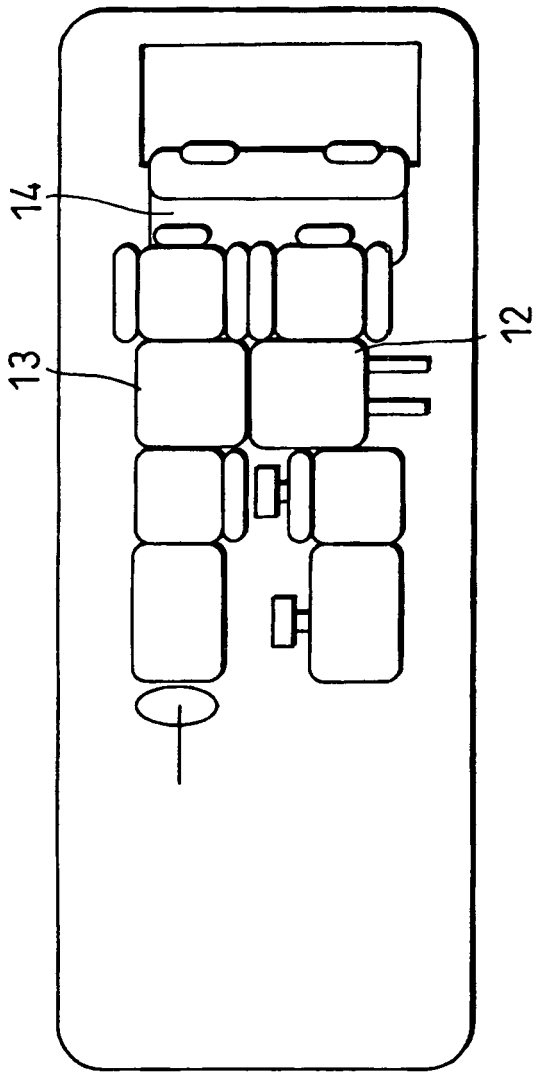


FIG.19A

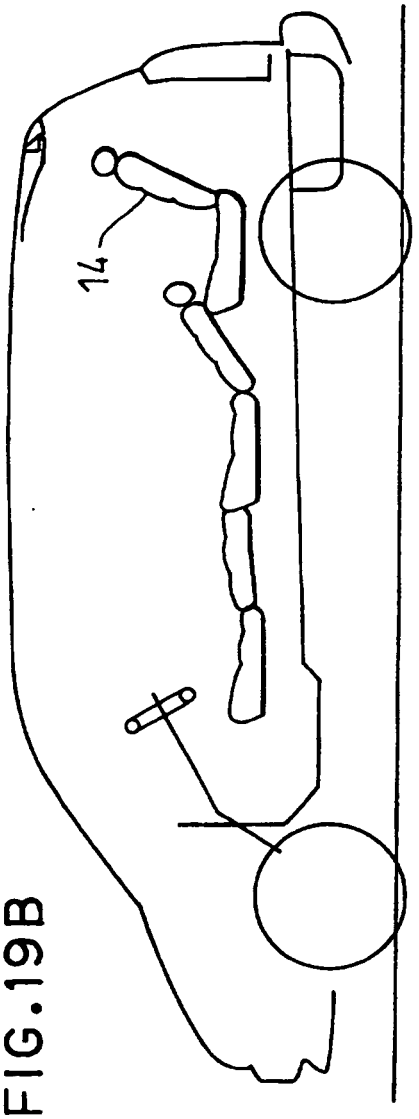


FIG.19B

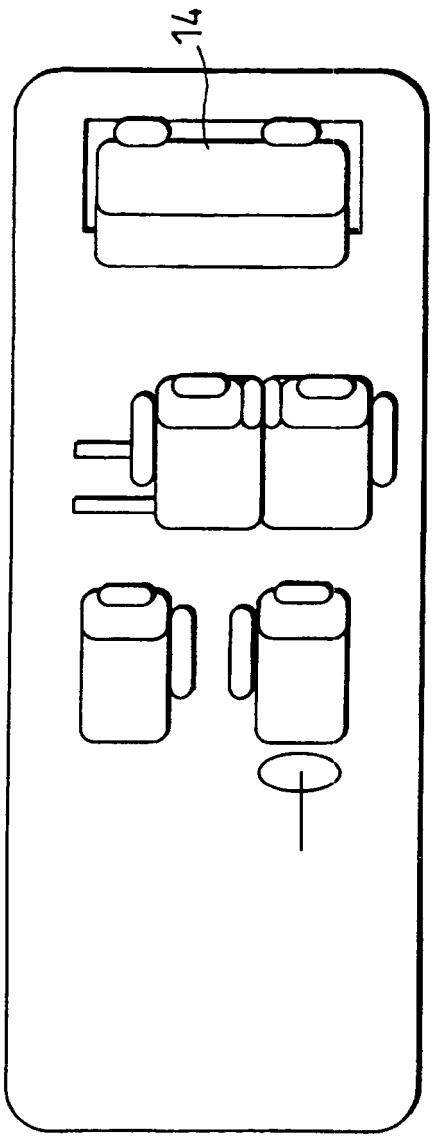


FIG.20A

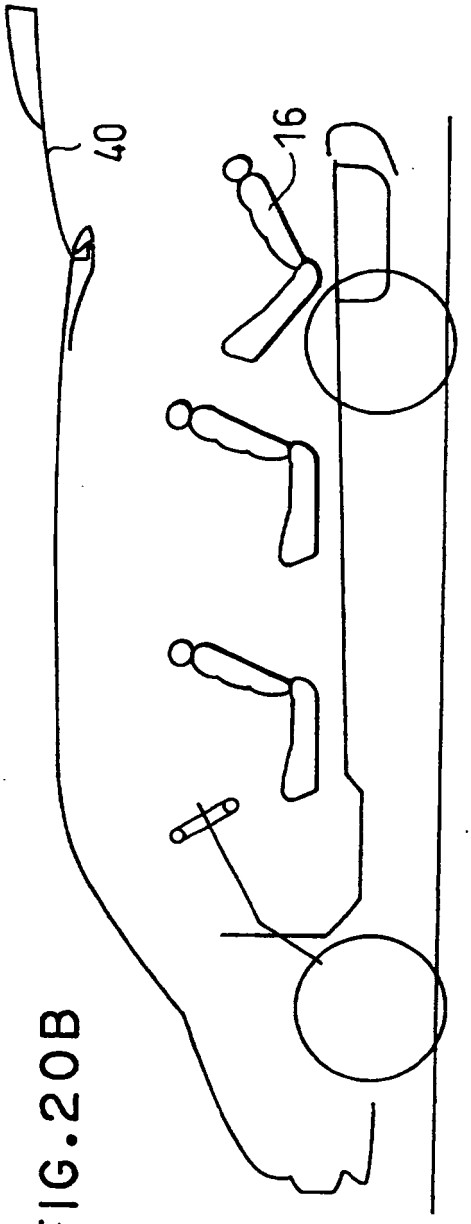


FIG.20B

FIG.21A

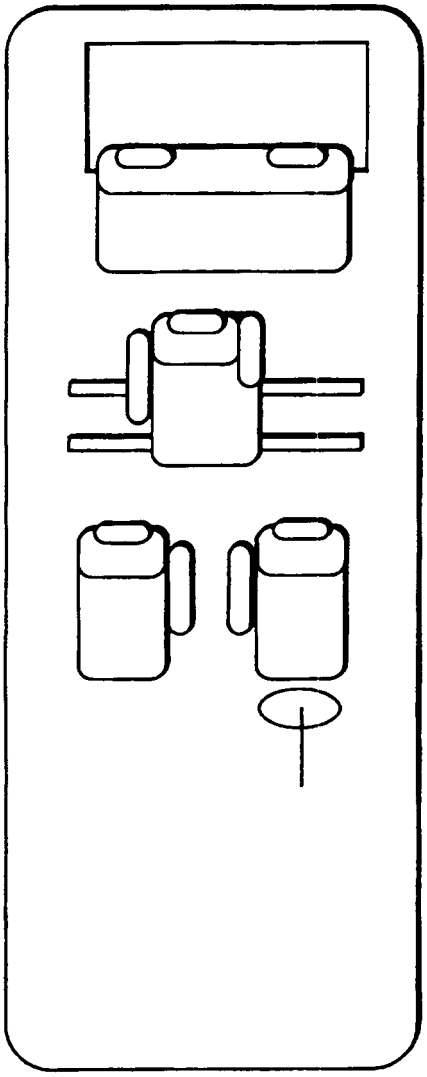
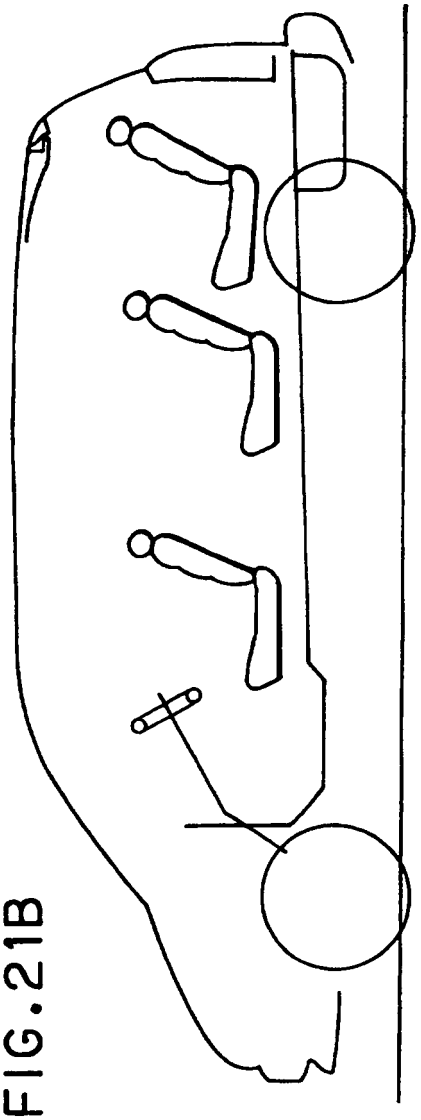


FIG.21B



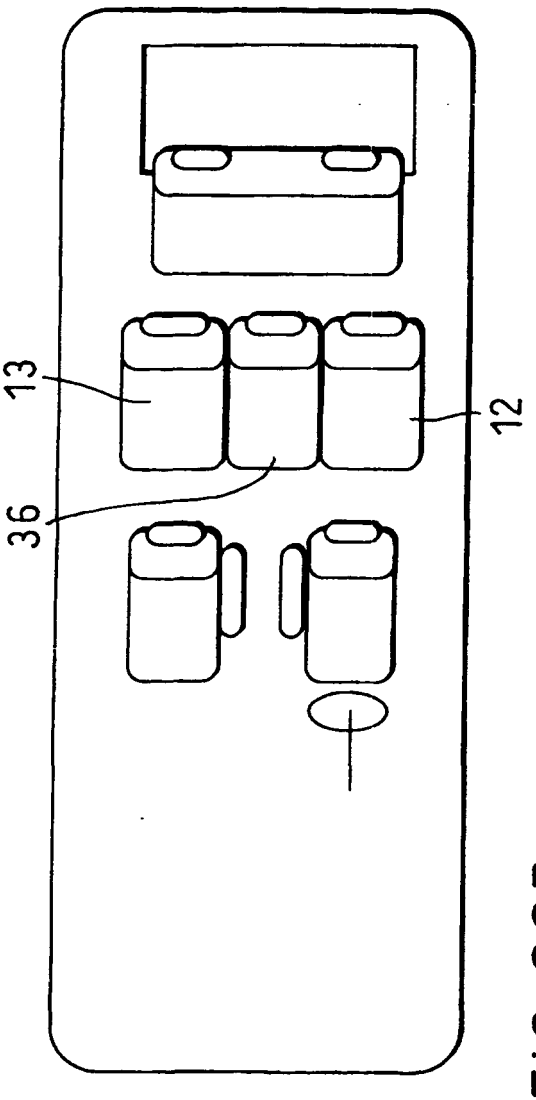


FIG.22A

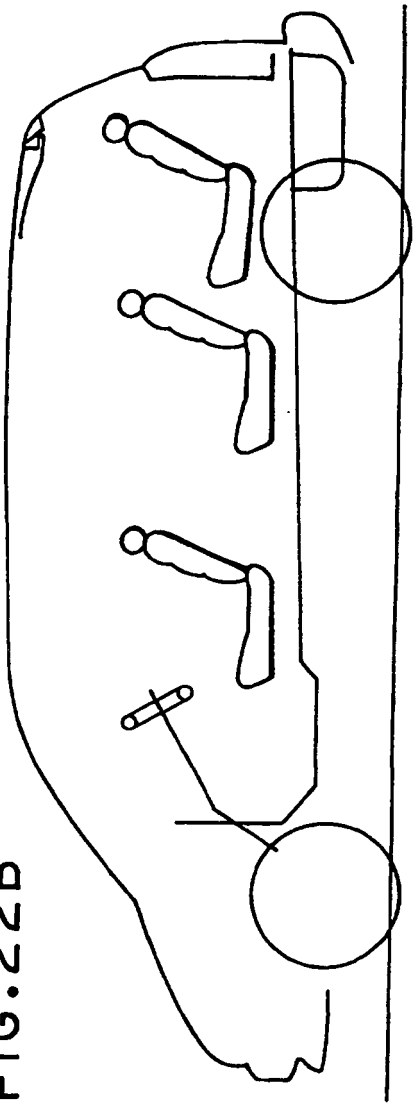


FIG.22B

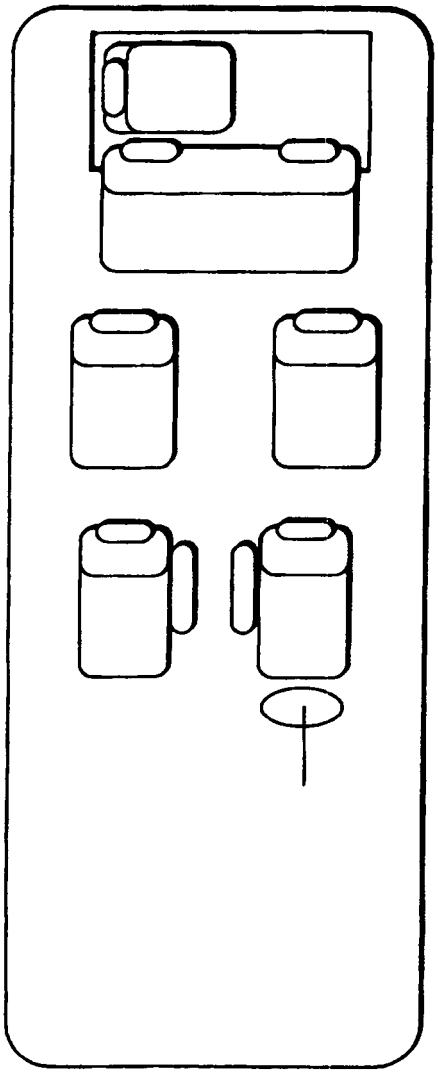


FIG.23A

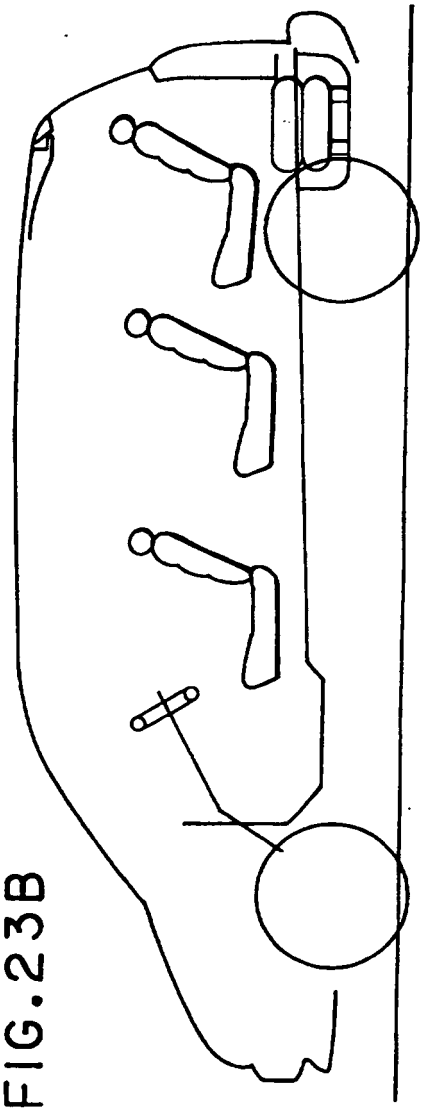


FIG.23B